

LISTING OF CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application:

1. **(currently amended)** A purified interferon- α ~~molecule that has interferon- α protein biological activity~~polypeptide, comprising
an a first amino acid sequence consisting of residues 1-75 of interferon- α 21a~~from an interferon- α 2c polypeptide, with a mutation of Ser to Tyr at amino acid residue 86 or 90;~~
a second amino acid sequence consisting of residues 76-81 of interferon- α 2c or residues 76-81 of interferon- α 21a;
a third amino acid sequence consisting of the sequence LDKFXTELXQQLND or the sequence LEKFXTELXQQLND, wherein X is any amino acid residue; and
a fourth amino acid sequence consisting of residues 96-166 of interferon- α 2c;
wherein the hybrid interferon- α polypeptide has interferon- α protein biological activity.

2. **(currently amended)** The purified interferon- α ~~molecule~~polypeptide according to claim 1, wherein the second amino acid sequence consists of residues 76-81 of interferon- α 2c polypeptide ~~has a mutation of Ser to Tyr at amino acid residues 86 and 90.~~

3. **(currently amended)** The purified interferon- α ~~molecule~~polypeptide according to claim 1, ~~comprising at least residues 86 to 90 of the~~wherein the second amino acid sequence consists of residues 76-81 of interferon- α 21a polypeptide.

4. **(currently amended)** The purified interferon- α ~~molecule~~polypeptide according to claim 31, wherein the third amino acid sequence consists of the sequence LDKFXTELXQQLND~~comprising at least residues 82 to 95 of the interferon- α 21a polypeptide.~~

5. **(currently amended)** The purified interferon- α ~~molecule~~polypeptide according to claim 1, wherein the third amino acid sequence consists of the sequence LEKFXTELXQQLND~~purified interferon- α molecule is a hybrid interferon polypeptide comprising one or more segments of interferon- α 2c and interferon- α 21a.~~

6. **(currently amended)** The hybrid interferon polypeptide according to claim 51, wherein the second amino acid sequence consists of residues 76-81 of interferon- α 2c and the third amino acid sequence consists of the sequence LEKFXT~~ELX~~QQLNDhybrid comprises at least amino acid residues 86 or 90 of interferon- α 21a.

7. **(currently amended)** The hybrid interferon- α ~~molecule-polypeptide~~ according to claim 6, comprising an amino acid sequence with a structure M-N-O-P, wherein M ~~comprises about~~consists of amino acid residues 1-75 of interferon- α 21a, N ~~comprises about~~consists of amino acid residues 76 to 81 of interferon- α 2c, O ~~comprises about~~consists of amino acid residues 82 to 95 of interferon- α 21a, and P ~~comprises about~~consists of amino acid residues 96 to 166 of interferon- α 2c.

8. **(currently amended)** A ~~The~~ hybrid interferon- α polypeptide according to claim 1, wherein the second amino acid sequence consists of residues 76-81 of interferon- α 2c and the third amino acid sequence consists of the sequence LDKFXT~~ELX~~QQLNDcomprising an amino acid sequence selected from the group consisting of:

————— (a) an amino acid sequence as set forth in SEQ. ID NOs: 9, 11, 13, 30, 32, 34, 36, 38, 40, and 42;

————— (b) amino acid sequences with a structure X-A-B, wherein X comprises about amino acid residues 1-75 of an interferon- α , A comprises about amino acid residues 76-95 of IFN- α 2c, and B comprises about amino acid residues 96-166 of IFN- α 21a;

————— (c) amino acid sequences with a structure X-A-Y, wherein X comprises about amino acid residues 1-75 of an interferon- α , A comprises about amino acid residues 76-95 of IFN- α 2c, and Y comprises about amino acid residues 96-166 of an interferon- α ; and

————— (d) amino acid sequences with a structure V-C-Y, wherein V comprises about amino acid residues 1-81 of an interferon- α , C comprises about amino acid residues 82-95 of IFN- α 2c, and Y comprises about amino acid residues 96-166 of an interferon- α ;

————— wherein the hybrid interferon- α polypeptide has interferon- α protein biological activity.

9. **(currently amended)** The hybrid interferon- α polypeptide according to claim 81, wherein the second amino acid sequence consists of residues wherein the second amino acid

sequence consists of residues 76-81 of interferon- α 21a and the third amino acid sequence consists of the sequence LDKFXTELXQQLNDe~~comprising one or more segments of interferon- α 21a and interferon- α 2c.~~

10. **(currently amended)** The hybrid interferon- α polypeptide according to claim 8~~1~~, comprising an amino acid sequence selected from the group consisting of an amino acid sequence as set forth in SEQ ID NOs: 9, 11, ~~13~~, 30, 32, 34, 36, 38, 40, and 42.

11. **(currently amended)** The hybrid interferon- α polypeptide according to claim 10, wherein the sequence is selected from the group consisting of an amino acid sequence as set forth in SEQ ID NOs: 9, ~~13~~, 32, 34, 36, and 38.

12. **(currently amended)** The hybrid interferon- α polypeptide according to claim 8~~1~~, ~~comprising the amino acid sequence with a structure X-A-B, wherein X comprises about amino acid residues 1-75 of an interferon- α , A comprises about~~ wherein the second amino acid sequence consists of amino acid residues 76-95 of ~~interferon- α IFN- α 2c,~~ and B ~~comprises about amino acid residues 96-166 of IFN- α 21a.~~

13. **(currently amended)** The hybrid interferon- α polypeptide according to claim 8~~1~~, ~~comprising the amino acid sequences with a structure X-A-Y, wherein X comprises about amino acid residues 1-75 of an interferon- α , A comprises about~~ wherein the second amino acid sequence consists of amino acid residues 76-95 of ~~interferon- α 21a~~IFN- α 2c, and Y ~~comprises about amino acid residues 96-166 of an interferon- α .~~

14. **(currently amended)** The hybrid interferon- α polypeptide according to claim 8, wherein the second amino acid sequence consists of residues wherein the second amino acid sequence consists of residues 76-81 of interferon- α 21a and the third amino acid sequence consists of the sequence LEKFXTELXQQLNDe~~comprising amino acid sequences with a structure V-C-Y, wherein V comprises about amino acid residues 1-81 of an interferon- α , C comprises about amino acid residues 82-95 of IFN- α 2c, and Y comprises about amino acid residues 96-166 of an interferon- α .~~

15. **(currently amended)** A nucleic acid molecule encoding a polypeptide according to claim 81.

16. **(original)** A recombinant vector comprising the nucleic acid molecule according to claim 15.

17. **(original)** A cell transformed with the recombinant vector according to claim 16.

18. **(currently amended)** A pharmaceutical composition comprising:
a pharmaceutically acceptable vehicle or carrier; and
at least one hybrid interferon- α polypeptide according to claim 81.

19. ~~**(cancelled)** A method for treating a patient having a viral disease, comprising administering to said patient a therapeutically effective amount of at least one hybrid interferon- α polypeptide according to claim 8.~~

20. ~~**(cancelled)** The method according to claim 19, wherein the administration is by injection.~~

21. ~~**(cancelled)** A method for regulating cell growth in a patient, comprising administering to said patient a therapeutically effective amount of at least one hybrid interferon- α polypeptide according to claim 8.~~

22. ~~**(cancelled)** The method according to claim 21, wherein the regulated cell growth is tumor cell growth.~~

23. ~~**(cancelled)** The method according to claim 21, wherein the administration is by injection.~~

24. **(new)** A nucleic acid molecule encoding a polypeptide according to claim 10.

25. (new) A nucleic acid molecule according to claim 24, having a nucleic acid sequence as set forth in SEQ ID NO: 8, 10, 29, 31, 35, 37, 39, or 41.

26. (new) A recombinant vector comprising the nucleic acid molecule according to claim 24.

27. (new) A cell transformed with the recombinant vector according to claim 26.

28. (new) A pharmaceutical composition comprising:
a pharmaceutically acceptable vehicle or carrier; and
at least one hybrid interferon- α polypeptide according to claim 10.